

SUNNYVALE WATER POLLUTION CONTROL PLANT

TOUR STUDY GUIDE

1. Why is sewage treated before being discharged to the Bay? _____

2. Why is it necessary to speed up nature's processes through the treatment plant?

3. What types of pollutants do Sunnyvale homes and businesses discharge into the sewer?
(Name at least five.) _____

4. How many millions of gallons of water enter the plant in an average 24-hour period?

5. What is the diameter of each of the two pipes bringing sewage into the plant?
_____How deep underground are they? _____
6. What are the colors of pipes in the plant that carry the following things?:
a. methane gas _____ b. sludge _____ c. scum _____ d. electrical _____
e. compressed _____ f. water _____
7. How many engines in the PRIMARY BUILDING pump water up to ground level? _____
8. What does the CHANNEL MONSTER do in the first step of PRIMARY TREATMENT
of sewage? _____
9. What is the reason for adding compressed air into the GRIT CHAMBERS?

10. What are examples of "GRIT"? _____
11. What happens to GRIT after it is removed? _____
12. What happens in the SEDIMENTATION BASINS when the water moves very slowly?

13. Where do SLUDGE and SCUM go once they are removed? _____
14. What happens in the DIGESTERS? _____

15. What parts of the human body do the DIGESTERS mimic? _____
_____. At what temperature should the scum and
sludge in the digesters be kept? _____
16. What gas is produced in the DIGESTERS? _____ What do we use it for?

17. What is the environmental benefit of using it instead of flaring it? _____

18. What are the treated solids removed from the DIGESTERS called? _____

Plant Tour Study Guide continued

19. What is the purpose of the slits in the tiles on the BIOSOLIDS DRYING BEDS?

20. How long do the BIOSOLIDS dry out on beds? _____
21. What are BIOSOLIDS used for? _____
22. Where does the water go for SECONDARY TREATMENT to naturally remove dissolved solids? _____
23. How long, on average, does the water remain in the ponds? _____
24. What organisms in the ponds consume most of the dissolved solids and what is added as a result? _____
25. What is the reason for removing dissolved solids and nutrients in SECONDARY TREATMENT? _____
26. What is a by-product of ALGAE growth? _____
27. What is the purpose of TERTIARY TREATMENT? _____
28. Where does the water pumped up from the ponds go to begin TERTIARY TREATMENT?

29. What happens in the FGR's when water trickles down the SLIME GROWTH walls?

30. What two substances are added in the AIR FLOTATION TANKS to cause the algae to clump and float to the surface for removal? _____
31. What are the names of the materials in the dual MEDIA FILTERS?

32. Why does the water wind its way slowly through the CHLORINE CONTACT CHANNELS?

33. How do we remove CHLORINE later and why? _____
34. How safe is the treated sewage water at this stage? _____
35. What is the name of the treated sewage water that is not discharged into the Bay, and what is it used for? _____
36. What color are the pipes that distribute recycled water? _____
37. Do you think it is necessary to have a sewage treatment facility? _____ Why or why not?
